

REMARKS

The allowance of claims 10 to 15, 20 and 21 for new steroid compounds and compositions is gratefully acknowledged.

Method-of-use or method-of-treatment claims 16 to 19 claim methods of treatment using the novel anti-oxidant equilenin derivatives claimed in the allowed claims.

I. INDEFINITENESS REJECTIONS

Claims 16 to 19 were rejected under 35 U.S.C. 112, second paragraph, for indefiniteness.

Claims 16 to 17 were rejected for including the term “geroprophylaxis”.

The term “geroprophylaxis” designates a field of medicine devoted to the prevention of diseases and conditions specifically in older people and related to aging, such as Alzheimer disease.

Perhaps the term “gerontology” is more familiar in U.S. medical practice. If necessary the preamble of this claim might be reworded using the terms “gerontological diseases and conditions”.

In any case, the age-related diseases that occur in elderly individuals are a well-defined category of diseases. One skilled in the medical arts would understand the scope of the diseases that are treatable by the methods claimed in claims 16 and 17. It is respectfully submitted that the scope of these claims is not indefinite.

Claims 18 and 19 were rejected for including the wording “diseases or organs or tissues caused, at least in part, by oxygen radicals”.

This latter wording contains a typographical error: “diseases or organs” should have been “diseases of organs”. Beyond that the wording “caused, at least in part, by oxygen radicals” has been changed to “treatable by anti-oxidant compounds” for reasons explained further below.

The scope of the amended claims is definite because either a disease or condition is treatable by an anti-oxidant compound, or it is not.

For the foregoing reasons and because of the changes in claims 18 and 19, withdrawal of the rejection of amended claims 18 and 19 and unamended claims 16 and 17 as indefinite under 35 U.S.C. 112, second paragraph, is respectfully requested.

Claims 16 to 19 were rejected under 35 U.S.C. 112, first paragraph, for not being described in the specification in such a manner so that one skilled in the art can make and/or use the invention.

These claims are method-of-use claims for novel or new compounds. Claims for the novel or new compounds have already been allowed.

The first prerequisite for performing these methods is the making of these new compounds. The making of these novel equilenin derivatives is explained fully on page 3 to 5 of the current specification. Obviously the manner of the making of these compounds was sufficient for the compound and pharmaceutical composition claims, because those claims have already been allowed.

The specification further teaches in the paragraph running from page 2 to 3 of the English translation of the specification that the novel equilenin derivatives have anti-oxidative activity, but only minor or small systemic hormonal action. The experimental tests that were made to determine this fact are explained in this paragraph and are of course *in vitro* experiments. These types of *in vitro* model experiments are well known in the pharmaceutical arts and are accepted tests for the effectiveness of various steroid compounds as antioxidants. They clearly show that the claimed equilenin derivatives are anti-oxidants.

In signing the Declaration of Inventorship that applicants verify the statements in the above paragraph.

Furthermore it is well known in the pharmaceutical art that anti-oxidant compounds are effective in treating certain types of diseases and conditions. Some of these conditions and diseases are set forth on page 3 of the English translation.

An Information Disclosure Statement with a copy of German language prior art reference, EP 0 436 936 A2, accompanies this amendment. Page 11 of this reference teaches that many of the

diseases that are mentioned in applicants' specification are treatable by administration of anti-oxidant compounds.

The establishment of the dosage level for this purpose for a particular disease or condition is well within the skill of those of ordinary skill in the pharmaceutical arts.

The novel equilenin derivatives have the special advantage that they have a low or minor systemic hormonal action, thus making them better choices for this type of therapy than many other antioxidant steroid compounds. This means that there are very slight feminizing side effects when they are administered to males.

It is respectfully submitted that the current disclosure in the specification contains more than enough information for one skilled in the art to make the novel equilenin ingredients and to determine the best methods of administration and use of these compounds to treat diseases and/or conditions that are known to be caused by oxygen free radicals or that are known to be treated by antioxidant compounds.

For the foregoing reasons and because of the changes in claims 18 and 19, withdrawal of the rejection of the amended claims

18 and 19 and the unamended claims 16 and 17 under 35 U.S.C.

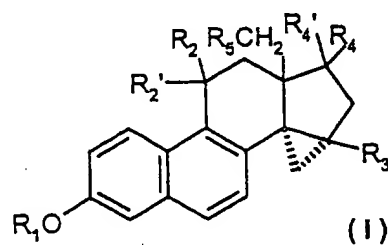
112, first paragraph, is respectfully requested.

Appendix below includes the changes made in the claims.

APPENDIX SHOWING CHANGES MADE IN THE CLAIMS

Underlining shows additions; brackets show deletions

18(amended). A method of therapeutic treatment of men and women having diseases [or] of organs or tissues [caused, at least in part, by oxygen radicals] treatable by anti-oxidant compounds, said method comprising administering to a person an effective amount for said therapeutic treatment of at least one equilenin derivative of formula I:



wherein

R_1 denotes a hydrogen atom, a C_1 - C_5 -alkyl group, a C_1 - C_5 -acyl group or a benzoyl group,

R_2 denotes a hydrogen atom and R'_2 denotes a fluorine atom, a hydroxyl group or a C_1 - C_5 -acyloxy group or R_2 and R'_2 together denote an oxo group,

R_3 denotes a hydrogen atom or a methyl group,

R_4 denotes a hydrogen atom and R'_4 denotes a hydroxyl group or a C_1 - C_{11} -acyloxy group or R_4 and R'_4 together denote an oxo group, a methylene group, a halomethylene group or a dihalomethylene group and

R_5 denotes a hydrogen atom or a methyl group.

19(amended). A method of therapeutic treatment of men and women having diseases [or] of organs or tissues [caused , at least in part, by oxygen radicals] treatable by anti-oxidant compounds, said method comprising administering to a person an effective amount for said therapeutic treatment of at least one equilenin derivative selected from the group consisting of:

$14\alpha, 15\alpha$ -methylenestra-1, 3, 5(10),6,8-pentaene-3, 11 β ,17 β -triol,

11 β ,17 β -dihydroxy-14 α ,15 α -methylenestra-1, 3, 5(10),6,8-pentaene-3-yl benzoate,

11 β ,17 β -dihydroxy-14 α ,15 α -methylenestra-1, 3, 5(10),6,8-pentaene-3-yl propionate,

3,11 β -dihydroxy-14 α ,15 α -methylenestra-1, 3, 5(10),6,8-pentaene-17 β -yl decanoate,

3,11 β -dihydroxy-14 α ,15 α -methylenestra-1, 3, 5(10),6,8-pentaene-17-one,

3-methoxy-14 α ,15 α -methylenestra-1, 3, 5(10),6,8-pentaene-11 α ,17 β -diyl diacetate,

15 β -methyl-14 α ,15 α -methylenestra-1, 3, 5(10),6,8-pentaene-3,11 β ,17 β -triol,

11 β -fluoro-14 α ,15 α -methylenestra-1, 3, 5(10),6,8-pentaene-3,17 β -diol,

3,17 β -dihydroxy-14 α ,15 α -methylenestra-1, 3, 5(10),6,8-pentaene-11-one,

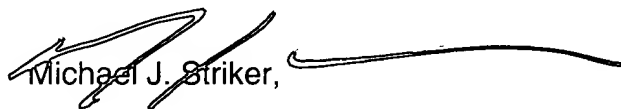
3-methoxy-14 α ,15 α -methylenestra-1, 3, 5(10),6,8-pentaene-11 α ,17 α -diyl diacetate,

3-methoxy-14 α ,15 α -methylen-11-oxoestra-1, 3, 5(10),6,8-pentaene-17 α -yl acetate,
11 β -hydroxy-17,17-difluoromethylene-14 α ,15 α -methylenestra-1, 3, 5(10),6,8-pentaene-3-yl benzoate and
14 α ,15 α -methylene-17,17-bis-methyleneestra-1,3,5(10),6,8-pentaene-3,11 α -diol.

Should the Examiner require or consider it advisable that the specification, claims and/or drawing be further amended or corrected in formal respects to put this case in condition for final allowance, then it is requested that such amendments or corrections be carried out by Examiner's Amendment and the case passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing the case to allowance, he or she is invited to telephone the undersigned at 1-631-549 4700.

In view of the foregoing, favorable allowance is respectfully solicited.

Respectfully submitted,


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